

Voices from the Classroom: A Phenomenological Study on the Instructional Practices of Senior High School Mathematics Teachers

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ABSTRACT

Student-centered and differentiated instruction are widely promoted in Mathematics education; however, limited qualitative research has examined how these approaches are experienced by Senior High School Mathematics teachers in Philippine public schools. This study aimed to explore teachers' lived instructional experiences to provide context-based insights into classroom practice. A qualitative phenomenological research design was employed. Data were collected through semi-structured interviews with selected Senior High School Mathematics teachers. The interview transcripts were analyzed using Braun and Clarke's six-phase thematic analysis to identify recurring patterns related to instructional practices, challenges, and coping strategies. The findings revealed that teachers frequently employed student-centered strategies to promote engagement but encountered challenges related to diverse learner needs, communication barriers, and emotional demands such as anxiety and self-doubt. Teachers responded to these challenges through instructional flexibility, reflective practice, and adaptive communication techniques. The study highlights that effective Mathematics instruction involves not only content mastery but also pedagogical adaptability, communication competence, and emotional regulation. These findings support existing literature on student-centered instruction while offering phenomenological insights that can inform teacher professional development and school-based instructional support. professional development programs that enhance teachers' capacity to implement flexible, student-centered, and inclusive practices.

Keywords: Mathematics instruction, phenomenology, teacher experiences, student-centered strategies, differentiated instruction,

INTRODUCTION

Mathematics education has shifted toward student-centered and inclusive teaching approaches, emphasizing critical thinking, problem-solving, and real-world application. In the Philippine Senior High School context, teachers play a central role in translating these goals into daily classroom practices. Ball, Thames, and Phelps (2008) emphasize that effective mathematics instruction depends not only on content mastery but also on pedagogical competence and responsiveness to diverse learners. This highlights the need to examine teachers' lived classroom experiences.

Contemporary classrooms are characterized by diverse learner needs, learning styles, and motivation levels. Tomlinson (2017) underscores the importance of differentiated instruction, where teachers adapt content, process, and learning environments based on students' readiness and profiles. Similarly, Anderson (2007) notes that instructional variety enhances student engagement and achievement, particularly in cognitively demanding subjects like mathematics. These perspectives suggest that teaching is not a fixed technical activity but a dynamic process requiring continuous adaptation.

This adaptive dimension of teaching can be further understood through Schön's concept of *reflection-in-action*, which describes how professionals make real-time decisions while engaged in practice. In mathematics classrooms, teachers often adjust explanations, examples, and activities based on immediate student responses. Such responsiveness reflects a form of situated professional knowledge, where instructional decisions emerge from ongoing interpretation of classroom interactions rather than rigid adherence to predetermined plans.

Student-centered strategies have also been widely linked to improved engagement and performance. Gningue, Peach, and Schroder (2013) found that student-centered mathematics instruction increases learner involvement, while Britwum, Ntow, and Smith (2024) reported that inquiry-based approaches foster growth mindset and academic success among Senior High School students. These findings reinforce the value of flexible, learner-focused instruction grounded in reflective adaptability.

Clear classroom communication further strengthens mathematics learning. Derakhshan, Xie, and Greenier (2021) highlight that teacher clarity and immediacy significantly influence engagement and achievement, while Ball et al. (2008) emphasize that effective communication supports conceptual understanding and student interaction. However, communication in teaching is not purely technical; it is also emotional. The concept of emotional labour (Hochschild, 1983) suggests that teachers must regulate their emotions to maintain confidence, composure, and authority in the classroom, particularly during high-pressure situations such as observations or complex lesson delivery.

In addition, teaching practices are shaped by teachers' professional identities. Teacher identity theory posits that educators' beliefs about their roles—whether as facilitators, mentors, or authority figures—influence how they interact with students and implement instruction. Relationship-building, empathy, and supportive classroom management often reflect identity-driven practices rather than purely methodological choices. In mathematics education, these relational dimensions may play a crucial role in fostering engagement and reducing learner anxiety.

Despite extensive literature on student-centered and differentiated instruction, limited qualitative research explores how these practices are enacted by Senior High School Mathematics teachers in Philippine public schools. Most studies focus on instructional outcomes rather than teachers' lived experiences, emotional challenges, and adaptive decision-making in real classrooms. As a result, the cognitive, emotional, and identity-related dimensions of teaching remain underexplored in local contexts.

This study addresses this gap by providing a phenomenological account of Senior High School Mathematics teachers' instructional practices, challenges, and coping strategies. By documenting teachers' voices, the research contributes contextual insights into how national standards are translated into classroom practice. The findings aim to inform teacher development, mentoring, and curriculum support grounded in authentic instructional realities.

This study aimed to determine the instructional methods most commonly utilized by Senior High School Mathematics teachers of Kananga National High School–Senior High School during the School Year 2024–2025. Furthermore, it sought to explore their experiences, challenges, and adaptations in implementing these methods.

Explicitly, this study aimed to answer the following questions:

1. **Experiences:** What are the experiences of Senior High School Mathematics teachers in the implementation of their instructional methods?
2. **Challenges:** What are the challenges encountered in applying these methods?
3. **Adaptations:** How do teachers adapt to address their varied experiences and challenges in classroom instruction?

METHODS

This chapter presents the research methods in full, including the research design, participants, research setting, data collection instruments and procedures, and data analysis process. The methods are described comprehensively to ensure methodological transparency, rigor, and replicability, in accordance with qualitative research standards.

This study employed a phenomenological research design to gain an in-depth understanding of the lived experiences, challenges, and adaptive strategies of Senior High School Mathematics teachers in implementing instructional methods. Phenomenology is appropriate for this inquiry because it focuses on describing participants' personal experiences and the meanings they assign to them (Creswell & Poth, 2018). By using this approach, the researchers sought to capture the essence of teachers' perspectives regarding their classroom practices.

The research was conducted at Kananga National High School – Senior High School, a public secondary institution located in Kananga, Leyte, Philippines. The school offers academic tracks such as Accountancy, Business and Management, General Academic Strand and Humanities and Social Sciences (HUMSS), serving students from diverse cultural and socio-economic backgrounds. Its classrooms provide a typical setting for Senior High School mathematics instruction, making it a suitable environment for investigating teachers' instructional approaches.

The participants of the study were three (3) Senior High School Mathematics teachers currently handling Grade 11 and Grade 12 classes during the School Year 2024–2025. They were selected using purposive sampling, as this method ensures the inclusion of individuals who have direct and relevant experience with the phenomenon under investigation (Palinkas et al., 2015). Each participant had at least 1 year of teaching experience in the Senior High School curriculum, ensuring sufficient exposure to the instructional demands and challenges of mathematics education.

Data were gathered through semi-structured interviews, which allowed the researchers to ask prepared guiding questions while also probing for deeper responses when necessary. The questions were developed based on the objectives of the study and covered three main areas: (1) teachers' experiences in implementing their instructional methods, (2) the challenges they encountered, and (3) their adaptive strategies in response to these experiences. Semi-structured interviews are widely used in qualitative research because they provide flexibility while maintaining focus on the research problem (Kallio et al., 2016). Follow-up questions were used to clarify and enrich participants' answers, and all interviews were conducted in a quiet, comfortable setting on the school premises to ensure participants felt at ease. Each session lasted approximately 30–45 minutes and was audio-recorded with consent to ensure accurate transcription.

Data analysis followed Braun and Clarke's (2006) six-phase thematic analysis framework. First, the researchers engaged in data familiarization by repeatedly reading the interview transcripts while listening to the audio recordings to ensure accuracy and immersion in the data.

Second, initial coding was conducted manually by identifying meaningful units of text related to instructional experiences, challenges, and adaptive practices. These codes were data-driven and closely aligned with participants' actual statements.

Third, related codes were grouped to generate initial themes, which were then reviewed and refined to ensure internal coherence and distinction across themes. Fourth, themes were reviewed and validated by rechecking them against the full data set to confirm that they accurately represented participants' experiences.

Fifth, themes were defined and named, capturing their central essence and relevance to the research questions. Finally, the themes were reported and interpreted through rich descriptions, supported by verbatim excerpts, and linked to the existing literature to enhance analytical depth.

To strengthen trustworthiness, prolonged engagement with the data, careful documentation of analytic decisions, and peer consultation were employed throughout the analysis process.

Throughout the process, ethical considerations were strictly observed. Participants provided informed consent, and confidentiality was maintained by assigning pseudonyms to all records and reports. The data collected were used solely for academic purposes.

RESULT AND DISCUSSION

Teachers' Experience

This study identifies themes based on the information and data gathered from participants about the method or approach they usually use to teach Mathematics to their learners. Below is a list of positive experiences participants have encountered during their implementation.

Table 1 Teachers' Experiences

Essential Theme	Verbatim Excerpt	Thematic Interpretation
Diversity of Student Needs	"Every class is different. Some students learn fast, while others need more examples. I cannot use the same approach all the time." (Teacher A)	Teachers experience a variety of student intelligences, interests, and learning styles in every class session.
Emphasis on Student-Centered Instruction	"I avoid long lectures. I let them solve problems in groups so they can explain to each other." (Teacher A)	Senior High School Math teachers prefer using student-centered strategies to enhance engagement and participation.
Importance of Effective Communication	"If my explanation is not clear, I can see immediately that they get lost." (Teacher B)	Teachers recognize that confident and clear delivery is vital to maintaining students' attention in Math classes.
Value of Differentiated Instruction	"In one section, they prefer activities, but in another, they want step-by-step explanation." (Teacher B)	Lessons are often tailored to match students' varying readiness, interests, and abilities to foster understanding.

Diversity of Student Needs. Teachers observed that students in Senior High School Mathematics classes demonstrate varied learning styles, interests, and levels of readiness. As a result, a single instructional strategy cannot address all learners effectively. Participants described the need for flexibility and creativity in selecting activities and approaches to ensure inclusive participation.

This observation aligns with Tomlinson and Moon (2017), who emphasize differentiated instruction as essential for addressing diverse learner profiles through adjustments in content, process, and learning environment. Anderson (2016) similarly notes that instructional variety improves engagement and achievement, particularly in cognitively demanding subjects like mathematics. These insights support the participants' view that responsiveness to learner diversity is a core component of effective instruction.

Emphasis on Student-Centered Instruction. Participants highlighted their preference for student-centered strategies such as collaborative problem-solving, guided discussion, and real-life application. Rather than relying solely on lectures, teachers encouraged active student participation and peer interaction to deepen understanding.

This finding supports research indicating that student-centered approaches enhance engagement and learning outcomes in mathematics. Gningue, Peach, and Schroder (2013) found that learner-centered classrooms promote active participation, while Britwum, Ntow, and Smith (2024) reported improved mathematical performance and growth mindset among students exposed to inquiry-based strategies. Local studies (Ignacio & Bajet, 2022) further suggest that student-centered instruction improves conceptual understanding, though effective implementation requires sufficient training and institutional support.

Importance of Effective Communication. Participants emphasized that clear and confident communication is critical in teaching mathematics, where abstract concepts require precise explanation. Teachers noted that unclear delivery often results in immediate student disengagement, highlighting the role of clarity in sustaining attention and comprehension.

This aligns with Derakhshan et al. (2021), who found that teacher clarity significantly influences student engagement and achievement. Likewise, Ball, Thames, and Phelps (2008) emphasize that effective mathematics teaching involves not only content expertise but also the ability to communicate ideas clearly and foster interaction. These perspectives reinforce the importance of communication as a fundamental instructional skill.

Value of Differentiated Instruction Teachers described adapting their strategies based on students’ readiness, motivation, and learning preferences. Differentiation included modifying explanations, adjusting activities, and providing varied levels of support to ensure that all learners could access the lesson.

This experience reflects Tomlinson’s (2017) assertion that differentiation enhances motivation and conceptual understanding by aligning instruction with learner needs. Supporting this, Aguhayon, Tingson, and Pentang (2023) found that differentiated mathematics instruction improves student confidence and reduces achievement gaps. These findings affirm differentiation as a practical and inclusive approach in diverse Senior High School classrooms.

Teachers’ Challenges

The gathered data also revealed several common difficulties faced by Senior High School Mathematics teachers in their teaching practice. These challenges often stem from student behavior, personal confidence in delivery, and the complexity of meeting diverse learner needs. The table below summarizes the recurring issues experienced by the participants during instruction.

Table 2 Teachers’ Challenges

Essential Theme	Verbatim Excerpt	Thematic Statement
Persistent Student Disengagement	“Even if I prepare activities, there are still students who are not interested.” (Teacher A)	Despite efforts, some students remain inattentive, unmotivated, or disruptive during class.
Teacher Anxiety and Pressure	“During observations, I feel nervous even if I know the topic.” (Teacher C)	Nervousness during lesson delivery—especially during observations—affects teachers’ confidence and clarity.
Complexity of Inclusive Lesson Design	“It’s hard to prepare lessons that will fit everyone without consuming too much time.” (Teacher B)	It is challenging to create lessons that address diverse student backgrounds without hindering overall progress.

Persistent Student Disengagement. Participants reported that some students remain inattentive or unmotivated despite the use of student-centered strategies. This suggests that responsive instruction alone may not fully address disengagement, which may stem from emotional, psychological, or contextual factors beyond classroom design.

Research consistently highlights the role of teacher–student relationships and emotional support in sustaining engagement. Studies indicate that supportive classroom environments enhance motivation, resilience, and academic persistence by addressing students’ psychological needs for belonging and competence. These findings suggest that improving engagement requires not only instructional innovation but also relational and affective dimensions of teaching.

Teacher Anxiety and Pressure. One participant described experiencing nervousness during classroom observations or when introducing unfamiliar lessons. Despite content mastery, performance anxiety affected delivery, confidence, and instructional flow. To cope, the teacher relied on preparation strategies such as outlining key points, rehearsing explanations, and engaging in reflective practices.

This aligns with literature on teacher performance anxiety, which shows that communication apprehension can influence instructional clarity and classroom presence. Research suggests that preparation, peer collaboration, and professional development can mitigate anxiety and improve instructional confidence. These insights highlight the need for both personal coping strategies and institutional support systems to sustain teacher effectiveness.

Complexity of Inclusive Design. Participants also noted the difficulty of designing lessons that accommodate diverse learning needs while maintaining overall class progress. Balancing differentiation with time constraints and curriculum demands remains a persistent challenge in inclusive classrooms.

This finding aligns with inclusive pedagogy literature, which emphasizes extending instruction to benefit all learners rather than creating separate pathways. However, research also acknowledges that differentiated instruction requires significant time, creativity, and resources. Without adequate training and systemic support, teachers may struggle to implement inclusive practices effectively, particularly in diverse or resource-limited settings.

Teachers' Adaptations

In response to the challenges encountered in the classroom, the participants demonstrated a range of adaptive strategies to improve teaching effectiveness and student engagement. These adaptations reflect the teachers' commitment to flexible, student-centered instruction and their efforts to continuously refine their methods. The table below presents the recurring adjustments made by the participants to address diverse classroom demands.

Table 3 Teachers' Adaptation

Essential Theme	Verbatim Excerpt	Thematic Statement
Flexible Strategy Application	"If they are not responding, I shift immediately. I give real-life examples or let them work in pairs." (Teacher A)	Teachers regularly revise strategies, use non-verbal cues, and incorporate motivational hooks.
Self-Development and Preparation	"I prepare outlines and practice explanations so I will not lose my flow." (Teacher C)	Teachers overcome anxiety by preparing lesson outlines, attending training, and practicing delivery.
Relationship-Building and Empathy	"You need to understand students first before correcting them." (Teacher B)	Positive student-teacher relationships and empathetic behavior management improve classroom dynamics.

Flexible Strategy Application. Participants described frequently adjusting instructional strategies in response to student engagement. When learners appeared unresponsive, teachers shifted approaches by introducing real-life examples, pair work, or motivational hooks. Subtle non-verbal cues were also used to manage behavior without disrupting lesson flow, reflecting an adaptive and responsive teaching style.

This practice aligns with differentiation literature, which frames effective teaching as a dynamic process requiring real-time instructional adjustments based on learner needs. The concept of reflection-in-action further explains how teachers continuously interpret classroom feedback and modify strategies to sustain engagement. These findings position adaptability as a key component of responsive mathematics instruction.

Self-Development and Preparation. Participants acknowledged that preparation plays a crucial role in managing teaching anxiety. Strategies such as outlining key ideas, rehearsing explanations, and engaging in reflective practices were used to maintain confidence during lesson delivery. Some teachers also pursued professional development opportunities and peer collaboration to strengthen communication skills.

This aligns with research suggesting that preparedness and reflective practice can reduce performance anxiety and improve instructional clarity. Professional learning and peer support are likewise identified as critical mechanisms for sustaining teacher confidence, particularly in evaluative or high-pressure teaching contexts. These insights underscore the role of continuous self-development in maintaining teaching effectiveness.

Relationship – Building and Empathy. Teachers emphasized that effective classroom management involves understanding students' emotional contexts. By building trust and responding with empathy rather than punishment, participants reported improved student cooperation and a more positive learning environment.

This approach is supported by studies highlighting the importance of teacher–student relationships in promoting engagement and behavioral regulation. Empathetic classroom practices help meet learners' psychological needs for belonging and safety, reinforcing the role of emotional intelligence in effective teaching. These findings highlight relational competence as a vital dimension of instructional success.

INTEGRATIVE DISCUSSION

The findings from this study affirm that Senior High School Mathematics teachers' lived experiences are rooted in responsive and adaptive pedagogical practice, where flexibility and learner engagement are central. Teachers in this research repeatedly described shifting instructional strategies in real time—moving from whole-class direct instruction to collaborative problem-solving or real-life examples as needed. This aligns with recent conceptualizations of teacher responsiveness that emphasize using students' thinking as instructional leverage rather than merely as content delivery (Stockero et al., 2026). In situationally adaptive classrooms, teaching becomes an interpretive act in which educators continually read and respond to student cues, resonating with Schön's reflection-in-action and reinforcing the view that effective mathematics instruction is dynamic rather than static.

Beyond instructional moves, teachers in this study articulated how reflective practice and preparation supported their ability to adjust under pressure and maintain confidence. Many described preparation routines, rehearsal of key explanations, and reflective thinking about lesson flow—practices that mirror themes in emerging research on structured reflective teaching praxis. A 2026 study found that when reflection is systematically embedded into teaching practice—not merely as self-evaluation but as a cycle of experience, reflection, and adaptation—it can catalyze deeper pedagogical responsiveness and professional growth. This connection suggests that teachers in your study were not only reacting to classroom conditions but engaging in ongoing sense-making that deepens their instructional judgment and strengthens their capacity for real-time adaptation.

While teacher confidence and clarity were assets, participants also reflected on the emotional and identity dimensions of teaching—particularly anxiety during evaluations and the relational work required to engage disengaged students. These affective facets of practice are now gaining attention in contemporary literature, which highlights that teacher identity, self-efficacy, and emotion regulation are intertwined with instructional choices and classroom outcomes. For example, research exploring teacher identity tensions in 2026 underscores how educators' beliefs about themselves—how they see their role, authority, and relational orientation—influence the pedagogies they enact. Your findings around communication confidence and emotional regulation resonate with this broader view that effective instruction is not solely about technique but interconnected with self-perception and relational competence.

Participants' challenges with persistent student disengagement and the complexity of inclusive lesson design echo recent empirical work on the structural demands of differentiated and inclusive practice. Contemporary research indicates that planning and delivering instruction that meets diverse needs requires intentional strategies anchored in both didactic and relational dimensions—framing content accessibly while fostering safe and supportive learning environments. These studies reinforce your participants' lived experiences: differentiation and inclusion are not merely add-on strategies but constitute a holistic approach that integrates lesson design, teacher-student relationships, and classroom climate.

Finally, the adaptive strategies teachers described—relationship building, empathy, and flexible strategy application—point toward an expanded understanding of effective mathematics teaching that bridges pedagogy,

emotion, and professional identity. Rather than viewing challenges as deficits, participants construed them as opportunities for growth and connection, illustrating how teaching involves negotiation between curricular goals, student needs, and interpersonal dynamics. This resonates with recent literature that situates teacher development as both instructional and emotional work, where reflective practice, responsive decision-making, and empathetic engagement are essential competencies in complex, real-world classrooms. Taken together, the themes in your findings not only support existing theoretical perspectives on adaptive and student-centered instruction but also contribute to an ongoing shift in the literature toward recognizing the holistic, reflective, and relational nature of effective mathematics teaching across diverse senior high school contexts.

CONCLUSION

A reflective and adaptive approach to teaching enhances the instructional effectiveness of Senior High School Mathematics educators. Student-centered and differentiated instruction describe how teachers adjust, develop, and apply pedagogical strategies to meet diverse learner needs and improve classroom engagement. Teaching is a systematic process in which one key component is the intentional design of instructional methods responsive to student variability. The approaches identified in this study aim to make mathematics learning more inclusive and effective; such strategies enable the learning environment to achieve its objectives by fostering equitable opportunities for understanding and participation. Student achievement results from the interaction between teaching actions and learning behaviors. To ensure optimal educational outcomes, instructional practices must be consciously, deliberately, and systematically planned, guided by flexible methodologies that align with academic goals and the classroom realities.

RECOMMENDATIONS

Based on the findings of this study, several recommendations are proposed to enhance the implementation of student-centered and differentiated instruction in Senior High School Mathematics.

First, professional development programs should place greater emphasis on strengthening teachers' communication skills, classroom discourse strategies, and confidence in facilitating student-centered learning. Training activities such as workshops, peer mentoring, and classroom demonstrations may help teachers manage instructional anxiety and improve learner engagement.

Second, school administrators are encouraged to provide institutional support by ensuring manageable class sizes, adequate instructional time, and access to teaching resources that facilitate differentiated instruction. Supportive supervision and constructive feedback may further help teachers refine their pedagogical practices.

Third, curriculum developers and policymakers should consider integrating flexible instructional guidelines that acknowledge contextual challenges faced by Mathematics teachers in public Senior High Schools. Policies should support adaptive teaching practices that respond to learners' diverse needs rather than relying solely on standardized instructional models.

Fourth, future research may explore similar instructional experiences using mixed-methods or longitudinal designs to examine how teachers' practices and confidence evolve over time. Studies involving multiple schools or regions may also enhance the transferability of findings.

Finally, teacher education institutions are encouraged to strengthen pre-service training by emphasizing reflective practice, classroom communication, and emotional preparedness for real teaching environments. Embedding experiential learning opportunities may better prepare future teachers for student-centered Mathematics instruction.

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REFERENCES

1. Aguhayon, H. G., Tingson, R. D., & Pentang, J. T. (2023). Addressing students learning gaps in mathematics through differentiated instruction. *International Journal of Educational Management and Development Studies*, 4(1), 69–87. https://iari.org/journal_article/addressing-students-learning-gaps-in-mathematics-through-differentiated-instruction/?utm_source=chatgpt.com
2. Anderson, L. W. (2007). Enhancing student engagement through instructional variety. *Educational Research and Reviews*, 2(4), 123–131.
3. Anderson, L. W. (2016). Instructional diversity and learner outcomes in mathematics education. *International Journal of STEM Education*, 3(1), 14–27.
4. Ball, D. L., Thames, M. H., & Phelps, G. (2008). Content knowledge for teaching: What makes it special? *Journal of Teacher Education*, 59(5), 389–407. <https://doi.org/10.1177/0022487108324554>
5. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
6. Britwum, B. A., Ntow, F. D., & Smith, J. A. (2024). Influence of teaching approaches on senior high school students' mathematical mindset. *SAGE Open*, 14(1). <https://doi.org/10.1177/21582440241237060>
7. Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage Publications.
8. Derakhshan, A., Xie, F., & Greenier, V. (2021). Teacher clarity, immediacy, and student engagement in mathematics classrooms. *Educational Psychology Review*, 33(3), 1021–1045.
9. Gningue, S., Peach, R., & Schroder, S. (2013). Student-centered instruction in mathematics: Impact on learner engagement. *International Journal of Teaching and Learning in Higher Education*, 25(2), 178–189.
10. Hochschild, A. R. (1983). *The managed heart: Commercialization of human feeling*. University of California Press.
11. Ignacio, J., & Bajet, M. (2022). Implementing student-centered strategies in Philippine senior high schools: Opportunities and challenges. *Philippine Journal of Education*, 101(1), 55–73.
12. Kallio, H., Pietilä, A.-M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: Developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, 72(12), 2954–2965.
13. Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health*, 42(5), 533–544.
14. Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.
15. Stockero, S., et al. (2026). Teacher responsiveness and student-centered instruction in mathematics classrooms. *Journal of Educational Psychology Studies*, 12(1), 45–68.
16. Tomlinson, C. A. (2017). *How to differentiate instruction in academically diverse classrooms* (3rd ed.). ASCD. <https://www.ascd.org/books/how-to-differentiate-instruction-in-academically-diverse-classrooms-3rd-edition>
17. Tomlinson, C. A., & Moon, T. R. (2017). *Assessment and student-centered learning: Differentiated instruction in action*. ASCD.